

REMARKS

The present application includes pending claims 1-7 and 9-23, all of which have been rejected. By this Amendment, claims 1, 15 and 23 have been amended. The Applicants respectfully submit that the pending claims define patentable subject matter.

Claims 1 and 23 were rejected under 35 U.S.C. 112, second paragraph, as being indefinite. These claims have been amended to overcome these rejections.

Claims 15-18 and 22 stand rejected under 35 U.S.C. 102(e) as being anticipated by U.S. 2005/0095993 ("Kim 993"). Claims 1, 3-4 and 10-13 stand rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. 2004/0064281 ("Kim 281"). Claims 2 and 6-7 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Kim 281 in view of U.S. 6,603,810 ("Bednekoff"). Claims 5 and 9 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Kim 281 in view of U.S. 6,704,352 ("Johnson"). Claim 14 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Kim 281 in view of U.S. 6,801,788 ("Csapo"). Claims 15 and 23 stand rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. 2004/0063412 ("Kim 412"). Claim 19 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Kim 412 in view of Johnson. Claims 20-21 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Kim 412 in view of Bednekoff. The Applicants respectfully traverse these rejections for at least the reasons previously discussed during prosecution and the following:

I. Kim 993 Does Not Anticipate Claims 15-18 And 22

Claim 15 recites, in part, "the radio frequency communication system adjusting at least one characteristic of the receive signal strength indicator based on two signal power measurements using the switching circuitry and the transmitter circuitry," as amended. The

Applicants respectfully submit that the rejection is moot in view of the claim amendment. Also, however, the claim is clear that at least one characteristic of the receive signal strength indicator is adjusted through the switching circuitry **and** the transmitter circuitry.

Kim, on the other hand, discloses a receiver signal processing module that triggers a T/R switch attenuation mode with respect to a receiver section. *See id.* at [0039] (“Based on this value, the receiver signal processing module 64, as inbound RF signals are being received, can trigger the T/R switch attenuation mode such that the receiver section is not saturated.”).

The Office Action states the following:

In Kim, the first testing and measurement results a receive signal strength indicator (114 of Fig. 6, paragraph 0041), wherein **transmitter, switch, and receiver are in used** [sic]. Then the second testing and measurement with receive attenuation mode enabled results a different receive signal strength indicator (116-118 of Fig. 6, paragraphs 0042-0043), wherein **transmitter, switch and receiver are all in used** [sic]. So, the transmitter and the switch are definitely in use in adjusting the at least one characteristic of the receive signal strength indicator. Based on the broad language of claim 15, Kim et al. do anticipate the limitation.

See May 29, 2008 Office Action at pages 3 (emphasis in original). The Applicants respectfully disagree for at least the following reasons:

As shown above, the Office Action cites Kim 993 at [0040] – [0043] as disclosing the limitations of claim 15 noted above. *See id.* at pages 3 and 5. Paragraph [0040] of Kim 993 states, however, the following:

FIG. 6 is a logic diagram of a method for determining attenuation of a transmit/receive switch for attenuating inbound RF signals. The process begins at Step 110 where the transmit/receive switch is enabled to provide a loop back configuration between the transmitter section and receiver section of the radio. This may be done by enabling both the transmit switch and receive switch of the transmit/receive switch. The process then proceeds to Step 112

where the transmit section provides a test radio frequency signal to the receive section.

This paragraph of Kim 993 merely discloses a method of determining attenuation of a T/R switch in which both the transmit switch and receive switch are enabled. There is nothing in it that describes adjusting a receive signal strength indicator using switching **and** transmitting circuitry. Indeed, there is nothing in it regarding a receive signal strength indicator. Overall, this cited portion of Kim 993 simply does not describe, teach, or suggest “the radio frequency communication system **adjusting at least one characteristic of the receive signal strength indicator** using the switching circuitry **and the transmitter circuitry**,” as recited in claim 15.

Next, paragraph [0041] of Kim states the following:

The process then proceeds to Step 114 where the receive section measures the signal strength of the test radio frequency signal to produce a 1st signal strength. This may be done by measuring the magnitude of the test radio frequency signal, squaring the magnitude, determining a power level based on the squared magnitude and then equating the power level to a received signal strength indication. As one of average skill in the art will appreciate, the signal strength of the test signal may be done on the in-phase signal components of the RF signal as well as the quadrature components of the RF signal.

This paragraph discloses that the **receive section measures the signal strength** of a test RF signal to produce a 1st signal strength, but it does not describe, teach, or suggest “the radio frequency communication system **adjusting at least one characteristic of the receive signal strength indicator** using the switching circuitry **and the transmitter circuitry**,” as recited in claim 15.

Moving on, paragraph [0042] of Kim 993 recites the following:

The process then proceeds to Step 116 where the receive attenuation mode of the transmit switch is enabled. This may be

done by enabling the transmit switch of the transmit/receive switch and disabling the receive switch of the transmit/receive switch, where in parasitic components of the receive switch provide attenuation of the test radio frequency signal to the receive section.

While this paragraph discloses enabling a receive attenuation mode of a transmit switch, it does not describe, teach or suggest “the radio frequency communication system adjusting at least one characteristic of the receive signal strength indicator using the switching circuitry and the transmitter circuitry,” as recited in claim 15.

Finally, paragraph [0043] of Kim 993 states the following:

The process then proceeds to Step 118 where the transmit section provides the test radio frequency signal to the receive section via the transmit/receive switch in the receive attenuation mode to produce an attenuated test radio frequency signal. The process then proceeds to Step 120 where the receive section measures signal strength of the attenuated test radio frequency signal to produce a 2 [sic] signal strength. The process then proceeds to Step 122 where the 1st signal strength is compared with the 2nd signal strength to determine the attenuation of the receive/transmit switch. As one of average skilled in the art will appreciate, the processing of FIG. 6 may be done at set up, periodically during operation of the radio, and/or upon environmental changes.

As discussed above, this paragraph discloses that the transmit section provides a test signal to the receive section. The receive section then measures the signal strength. First and second signal strengths are then compared to determine the attenuation of the switch. There is nothing in this portion, or the remainder of Kim, however, that describes, teaches, or suggests “the radio frequency communication system adjusting at least one characteristic of the receive signal strength indicator using the switching circuitry and the transmitter circuitry,” as recited in claim 15. Thus, for at least these reasons, Kim 993 does not anticipate claims 15 -18 and 22.

II. Kim 281 Does Not Render Claims 1, 3-4 And 10-13 Unpatentable

The Applicants next turn to the rejection of claims 1, 3-4 and 10-13 as being rendered unpatentable by Kim 281. Claim 1 recites, in part, “adjusting the operation of the receiver portion based upon the first signal power measurement and the second signal power measurement.” Thus, the claim is clear that the adjustment is based upon first and second signal power measurements, but not a single power measurement and a predetermined desired value.

Kim 281, on the other hand, discloses the following:

The RSSI correction module 100 receives **the RSSI value 91 and compares it with a desired zero input RSSI value**. Based on this comparison, the RSSI correction module 100 produces an RSSI adjust signal 102, which may be fed back to the RSSI module 87 and/or used to update a RSSI/power level table stored in the radio. The determination of the RSSI error, the RSSI adjust value 102, and the correction therefore will be described in greater detail with reference to FIGS. 4-9.

Kim 281 at [0040]. Thus, Kim 281 discloses that an RSSI adjust signal is produced based on a comparison of a **single RSSI value 91** and a **desired**, but not measured, zero input RSSI value. Figure 4 of Kim 281 is merely a “graph plotting RSSI values versus input power.” *See id.* at [0041].

The Applicants respectfully submit that Kim 281 does not describe, teach or suggest “adjusting the operation of the receiver portion based upon the **first signal power measurement and the second signal power measurement**,” as recited in claim 1. Thus, for at least this reason, Kim 281 does not render claims 1, 3-4 and 10-13 unpatentable.

Further, the Applicants respectfully submit that Kim 281 does not describe, teach or suggest “configuring the transmitter portion in a second transmitter configuration and the receiver portion in a second receiver configuration, wherein the first transmitter configuration is

different than the second transmitter configuration and the first receiver configuration is different than the second receiver configuration.” The Office cites Figs. 4-9 and paragraphs [0008] and [0040] of Kim 281 as teaching both “...arranging the transmitter portion in a first transmitter configuration and the receiver portion in a first receiver configuration;...” The Applicants have reviewed both paragraph [0040], shown above, and paragraph [0008] of Kim 281, shown below:

Many of the components of the transmitter and receiver are adjustable to account for process variations as well as for differing power levels of received radio frequency (RF) signals and/or of varying power levels of transmitted RF signals. To adjust for differing levels of received RF signals, the radio receiver includes a received signal strength indication (RSSI) module. As is known, a received signal strength indication module measures the magnitude of a received signal (i.e., in voltage), which is converted into a corresponding power level (in dBm, which is the ratio of power in milliwatts). For radio frequency integrated circuits that include an integrated RSSI module, the RSSI module is subject to the same process variations as other components of the RFIC. As such, the measured RSSI value may be off by as much as 20%. In high performance applications, this error is unacceptable since, if the measured RSSI is skewed high due to process variations (e.g., RSSI value greater than corresponding desired power level), useable RF signals will be ignored. Conversely, when the process variations skews the measured RSSI low, the radio will believe it is receiving an RF signal when in fact it is not. This later case locks the radio in the receive mode.

While the portion of Kim 281 shown above teaches that many of the components of the transmitter and receiver of Kim 281 are adjustable to account for process variations as well as for differing power levels of received radio frequency (RF) signals and/or of varying power levels of transmitted RF signals, this portion of Kim does not describe, teach or suggest “configuring the transmitter portion in a second transmitter configuration and the receiver portion in a second receiver configuration, wherein the first transmitter configuration is different than the second

transmitter configuration and the first receiver configuration is different than the second receiver configuration,” as recited in claim 1. The Office Action cites the same portions of Kim 281 for the first and second configuration of the receiver and transmitter, but does not provide any explanation as to how paragraphs [0008] and [0040], or Figs. 4-9 of Kim 281 teach two different configurations, in accordance with claim 1. Therefore, the Applicants respectfully submit that the Office Action has not shown where Kim 281 teaches or suggests at least this aspect of claim 1. Thus, for at least this additional reason, the Applicants respectfully request reconsideration of the claim rejection.

III. The Proposed Combination Of Kim 281 And Bednekoff Does Not Render Claims 2 And 6-7 Unpatentable

For at least the reasons discussed above in Section II, the Applicants respectfully submit that the proposed combination of Kim 281 and Bednekoff does not render claims 2 and 6-7 unpatentable.

IV. The Proposed Combination Of Kim 281 And Johnson Does Not Render Claims 5 And 9 Unpatentable

For at least the reasons discussed above in Section II, the Applicants respectfully submit that the proposed combination of Kim 281 and Johnson does not render claims 5 and 9 unpatentable.

V. The Proposed Combination Of Kim 281 And Csapo Does Not Render Claim 14 Unpatentable

For at least the reasons discussed above in Section II, the Applicants respectfully submit that the proposed combination of Kim 281 and Csapo does not render claim 14 unpatentable.

VI. Kim 412 Does Not Render Claims 15 And 23 Unpatentable

Claim 15 has been amended to recite, in part, “the radio frequency communication system adjusting at least one characteristic of the receive signal strength indicator based on two signal power measurements using the switching circuitry and the transmitter circuitry.” Claim 23 has been amended in a similar fashion. The Applicants respectfully submit that these rejections are moot in view of the claim amendments. For at least this reason, the Applicants respectfully request reconsideration of the claim rejections.

VII. The Proposed Combination Of Kim 412 And Johnson Does Not Render Claim 19 Unpatentable

For at least the reasons discussed above in Section VI, the Applicants respectfully request reconsideration of the rejection of claim 19.

VIII. The Proposed Combination Of Kim 412 And Bednekoff Does Not Render Claims 20-21 Unpatentable

For at least the reasons discussed above in Section VI, the Applicants respectfully request reconsideration of the rejection of claims 20-21.

IX. Conclusion

In general, the Office Action makes various statements regarding the pending claims and the cited references that are now moot in light of the above. Thus, the Applicants will not address such statements at the present time. However, the Applicants expressly reserve the right to challenge such statements in the future should the need arise (e.g., if such statement should become relevant by appearing in a rejection of any current or future claim).

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The Applicants respectfully request that the outstanding rejections be reconsidered and withdrawn for at least the reasons discussed above. If the Examiner has any questions or the Applicants can be of any assistance, the Examiner is invited to contact the Applicants.

The Commissioner is authorized to charge any necessary fees, or credit any overpayment to the Deposit Account of McAndrews, Held & Malloy, Account No. 13-0017.

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